



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,083	04/25/2000	John Hsieh	k2000003	9198

7590

05/29/2002

Kenneth E leeds
P O Box 2819
Sunnyvale, CA 94087-0819

EXAMINER

COLAIANNI, MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

1731

DATE MAILED: 05/29/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/558,083

Applicant(s)
Hsieh et al.

Examiner
Michael Colaanni

Art Unit
1731



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 21, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above, claim(s) 48 and 49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

Art Unit: 1731

Election/Restriction

1. Applicant's election of Group I, claims 1-47 in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 48-49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 5.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 17, 24-29, 40-44 are rejected under 35 U.S.C. 102(b) as being anticipated by McCormick, Jr. 2329922.

McCormick teaches providing a glass work piece that surrounds a waste piece (Fig. 2, ref. no. 7 and 8, 7 is the waste piece); heating a glass work piece without mechanically contacting the major surfaces of the workpiece (Fig. 3, ref. No. 19, 18 and 6); cooling the waste piece whereby the waste piece contracts relative to the work piece (Fig. 3, ref. no. 15 and page 2, col. 1,

Art Unit: 1731

lines 11-44), and the work piece expands relative to the waste piece and separating the work piece and the waste piece (page 2, col. 1, lines 11-44).

McCormick also teaches claim 24 limitations as above noted with respect to claim 17. McCormick's scoring of the glass constitutes a "crack extending through the thickness of the work piece" because "extending through" does not require that the crack extend all the way through the workpiece. A partial extension of the crack (scoring) is included in the language "extending through".

McCormick also teaches heating the second portion of the glass (Fig. 3, ref. no. 18 and 6, the outer ring is heated by the flame).

McCormick also teaches cooling the first portion (Fig. 3, ref. no. 15, the ceramic material keeps the inner portion cooler than the outer portion).

McCormick also teaches the first and second portions being disk-shaped (Fig. 2, ref. no. 7 and 8).

McCormick also teaches claim 40, whose common elements to claim 17 are above indicated. The "temperature element" in claim is taught by McCormick's use of a burner in Fig. 3. Moreover, McCormick teaches moving the heating element because the work piece in Fig. 3 is rotated. Thus, from the view point of the disk being treated, the burner is rotating.

McCormick also teaches placing the waste piece over the temperature element (Fig. 3, ref. no. 6 and 19, the flame extends both under and over the wastepiece).

Art Unit: 1731

McCormick also teaches the produce is substrate (Fig. 2, ref. no. 6, the glass substrate is used).

McCormick also teaches the temperature element may be a cooling element (Fig. 3, ref. no. 15).

McCormick also teaches that the temperature element is lifted while the waste piece rests on the temperature element (Fig. 4, the waste piece in the center rests on temperature element 12 while the work piece is lowered).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 1731

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-2, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCormick et al. 2329922.

McCormick substantially teaches applicant's claimed invention. McCormick also teaches that the cuts are provided prior to heating the outer waste piece and the cuts extend through the entire thickness of the workpiece (Fig. 1, page 1, col. 2, lines 50-55, the "cuts" are provided prior to heating. Once heated the cuts then extend through the entire thickness of the glass. There is no requirement that the cuts extend through the entire thickness prior to heating.) See the 35 U.S.C. §102(b) rejection for McCormick's teachings. However, McCormick does not teach providing an outer cut; the portion outside the outer cut being an outer waste piece; or the heating the outer waste piece while the middle portion is maintained in a cooler state, thereby causing the outer waste piece and middle portion to separate.

McCormick teaches that the multiple pieces are hand cut from a larger glass sheet (Fig. 1). The cut piece are then subjected to the heating and cooling treatment to effect a separation of the ring from the disk. Applicant has merely applied McCormick's teaching of using thermal expansion to separate the pieces twice. Applicant has merely duplicated the same step twice in succession.

It would have been prima facie obvious at the time the invention was made to apply McCormick's thermal expansion separating step twice because doing so would provide and outer

Art Unit: 1731

surface that does not need grinding and the outer edges would not be chipped or otherwise harmed by using a grinding process. McCormick teaches that using the thermal expansion separating process provides these advantages (page 2, col. 1, lines 32-38).

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCormick 2329922 in view of Morgan et al. 4467168.

McCormick substantially teaches applicant's claimed invention. See the §102(b) and 103(a) rejection above for McCormick's teachings. However, McCormick does not teach using a laser to form the cut in the glass.

However, Morgan et al. teach that it is well known in the art to use a laser to cut glass sheets into any desired shape (col. 3, lines 12-15).

It would have been prima facie obvious at the time the invention was made to use Morgan et al.'s laser cutting method with McCormick's glass cutting method because doing so would provide better precision and more accurate shape of the cut material. Also, using the laser allows more intricate glass shapes to be cut.

9. Claims 4, 11-16, 18-23, and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCormick et al. 2329922 in view of Kuramoto et al. JP 2-92837.

McCormick substantially teaches applicant's claimed invention. See the §102(b) and 103(a) rejections for McCormick's teachings. However, McCormick does not teach using a heating plate to heat the outer waste piece and thereby effect the thermal separation; or the various claimed temperature differences.

Art Unit: 1731

However, Kuramoto et al. teach that it is well known to use a hot plate to heat the outer portion of the glass material (Fig. 2, ref. no. 5 and 4). Kuramoto et al. also teach that the temperature difference is 50-400°C which encompasses all of applicant's claimed temperature differences in claims 11-16. Moreover, McCormick teaches that the temperatures of the inner and outer portions are manipulated to effect the desired separation (page 2, col. 1, lines 24-31, 40-43).

It would have been prima facie obvious at the time the invention was made to combine Kuramoto et al.'s teachings with McCormick's glass cutting method because using a heating plate in place of a burner would provide added versatility and in view of McCormick's teaching of manipulating temperature to achieve the desired product.

10. Claims 5, 9, 36-39 and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCormick et al. 2329922 in view of Jackson 4934112.

McCormick substantially teaches applicant's claimed invention. See the §102(b) and 103(a) rejections for McCormick's teachings. However, McCormick does not teach using a vacuum grip to grip the waste pieces.

However, Jackson teaches that it is known to use a vacuum gripping device to grip and hold waste pieces of glass cut from intricately shaped glass pieces (col. 8, lines 48-54). Moreover, the Examiner takes Official Notice that it is well known in the glass making art to use vacuum tables with heaters installed therein and the vacuum set-up having multiple channels for providing

Art Unit: 1731

the required vacuum. This set-up allows the glass to be heated while the providing the necessary support of the glass.

It would have been prima facie obvious at the time the invention was made to combine Jackson's teachings with McCormick's glass cutting method because doing so would permit the efficient removal of waste glass from the cutting area using well known vacuum removal means. Also, McCormick teaches the importance of maintaining the proper temperature to avoid warping the glass sheet (page 2, col. 1, lines 40-43).

11. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCormick et al. 2329922 in view of Bian et al. 6187408.

McCormick substantially teaches applicant's claimed invention. See the §102(b) and 103(a) rejections for McCormick's teachings. However, McCormick does not teach applying a magnetic layer to the middle portion after the middle portion has been separated, or applying an underlayer between the middle portion and the magnetic layer and a protective coating over the magnetic layer.

However, Bian teaches that it is well known in the glass disk art to apply a magnetic layer, an under layer and a protective layer (Fig. 2).

It would have been prima facie obvious at the time the invention was made to combine Bian et al.'s teachings with McCormick et al.'s glass disk manufacturing method because doing so would increase the versatility of McCormick's manufacturing method by allowing other products using glass disks of high precision to be incorporated with the process.


Art Unit: 1731

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Colaianni whose telephone number is 305-5493. The examiner can normally be reached on Monday to Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin, can be reached on (703) 308-1164. The fax phone number for the organization where this application or proceeding is assigned is 703-305-7115.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



MICHAEL COLAIANNI
PRIMARY EXAMINER

Art Unit 1731
May 27, 2002